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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
| 10/611,393  | 06/30/2003  | Kevin Lo             | 200311912-1                 | 1507             |
| 22879 7590 02/14/2007<br>HEWLETT PACKARD COMPANY<br>P O BOX 272400, 3404 E. HARMONY ROAD<br>INTELLECTUAL PROPERTY ADMINISTRATION<br>FORT COLLINS, CO 80527-2400 |             |                      | EXAMINER<br>HSIEH, SHIH WEN |                  |
|   |             |                      | ART UNIT                    | PAPER NUMBER     |
|   |             |                      | 2861                        |                  |

|  |            |               |
|--|------------|---------------|
| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
| 3 MONTHS                               | 02/14/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                 |              |  |
|------------------------------|-----------------|--------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s) |  |
|                              | 10/611,393      | LO ET AL.    |  |
|                              | Examiner        | Art Unit     |  |
|                              | shih-wen hsieh  | 2861         |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-28 is/are allowed.
- 6) ☒ Claim(s) 1-3, 29-31, 36 and 41-43 is/are rejected.
- 7) ☒ Claim(s) 4-10, 32-35 and 37-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6-30-03</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

[0018], line 2, computing device is designated as numeral (130), while in [0019] line 4, the support, which supports the print medium (120) also designated as numeral (130). Appropriate correction is required.

[0021], line 2, please change (120) into (130), because print medium is (120), however, "the print medium support" is used in line 2 of [0021], therefore, (130) is the numeral to be used in lieu of (120).

[0022], in this paragraph "print medium support ribs (270)" was described, which are used to support medium (120) in a print zone (not shown). Please look into fig. 2, in which the ribs (270) are located at same location as the third member (230). Then please look into fig. 3, accordingly, the ribs (270) should be located below the third member (230). If ribs (270) are located at this location, then how the ribs are going to support the print medium (120), which is on top of the first member per fig. 3. Examiner presumes the ribs (270) should point to something else in fig. 2, such as the little things erected next to first member (210). Please clarify.

### ***Double Patenting***

Art Unit: 2861

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-3, 29-31, 36 and 41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 14 and 30 of U.S. Patent No. 6,860,583 ('583). Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with liquid absorption in a borderless printing (specifically, the liquid is ink in an ink jet printing system) through a series of contacted absorbers and transferring the liquid from the very top absorber to an absorber next to it by way of different liquid transfer coefficients and different ink affinities in the instant application and different capillary heads in patent ('583) of each of the members/absorbers. In the instant application, such system is called "Ink over-spray containment apparatus". In patent ('583) such ink absorption is by way of a "waste ink absorption system". At any rate, both cases have

Art Unit: 2861

the concept that is to confine the over-spry liquid (or ink) within a place such that in a borderless printing the medium and the printing environment will not be stained by the over-sprayed ink. Below is a table of comparison between claims from both cases to indicate the obviousness of the claims in the instant application over those in the patent ('583):

| <u><b>10/611,393</b></u>  | <u><b>6,860,583</b></u>  |
|---|--|
| <p>1. An ink over-spray containment apparatus (30, figs. 3 and 4, Cheney et al. called it a waste ink absorption system, which functions the same as the ink over-spray containment apparatus claimed in this application), comprising: a first member having a first fluidic transport coefficient and a first ink affinity; and a second member coupled to said first member, said second member having a second fluidic transport coefficient lesser than said first fluidic transport coefficient and a second ink affinity greater than said first ink affinity.</p> <p>41. An ink over-spray containment system, comprising: ink transport means for transporting ink away from a sprayed surface having an ink affinity and a fluidic transport coefficient; and ink containment means for containing said ink, said ink containment means having greater ink affinity and lesser fluidic transport characteristics than said ink transport means.</p> | <p>1. An inkjet printing system, comprising: a platen adapted to support a print media; a printhead adapted to eject ink into a print zone between the printhead and the platen toward the print media and beyond a first edge of the print media to generate waste ink; a first absorber formed in the platen within the print zone, the first absorber adapted to extend beyond the first edge of the print media and absorb the waste ink ejected beyond the first edge of the print media; and a second absorber adapted to contact and absorb the waste ink from the first absorber, wherein the first absorber has a first capillary head and the second absorber has a second capillary head greater than the first capillary head.</p> |
| <p>2. The apparatus of claim 1, wherein said first member comprises porous plastic.</p> <p>3. The apparatus of claim 2, wherein said second member comprises needle</p>   | <p>30. The waste ink absorption system of claim 24, wherein the first absorber includes a polyester needle felt material having coarse fibers, the second absorber includes a porous</p>   |

Art Unit: 2861

|  |   |
|--|---|
| felt.  | plastic material, and the third absorber includes a polyester needle felt material having fine fibers.  |
| <p><b>29.</b> A method of containing fluid overspray, comprising: providing a first member having a first ink affinity, a first fluidic transport coefficient and a sprayed surface; providing a second member having an ink affinity greater than said first ink affinity and a fluidic transport coefficient lesser than said first fluidic transport; and transporting an ink from said sprayed surface to said second member.</p> <p><b>30.</b> The method of claim 29, further comprising containing said ink within said second member.</p> <p><b>31.</b> The method of claim 30, further comprising preventing said ink from migrating back to said first member.</p> <p><b>36.</b> A method of forming an ink overspray containment apparatus, comprising: providing a platen; providing a first member having a first ink affinity and a first fluidic transport coefficient; and providing a second member having a second ink affinity higher than said first ink affinity and a fluidic transport coefficient lower than said first fluidic transport coefficient.</p> | <p><b>14.</b> A method of printing on a print media, the method comprising: supporting the print media with a platen; ejecting ink from a printhead into a print zone between the printhead and the platen toward the print media, including ejecting ink beyond a first edge of the print media and generating waste ink; absorbing the waste ink with a first absorber formed in the platen within the print zone and extended beyond the first edge of the print media; and absorbing the waste ink from the first absorber with a second absorber contacting the first absorber, wherein the first absorber has a first capillary head and the second absorber has a second capillary head greater than the first capillary head.</p> |

Followings are discussions for each of the claims listed above in the table to indicate the obviousness of each of the claims in the instant application over its corresponding claims in patent ('583):

In regard to:

Claim 1:

The first and second members in claim 1 of the instant application correspond to the first and second absorbers in patent ('583). The first and second fluidic transport coefficients and the first and second ink affinities in claim 1 of the instant application correspond to the different capillary heads in patent ('583). Further discussions follow:

In patent ('583), **capillary head** were used for each of the first and second absorbers. The second absorber has a capillary head, which is higher than that of the first absorber. Capillary head is defined in patent ('583, see col. 5, lines 28-30) as: the potential to cause the fluid (to be more specific, the ink an ink jet printer) to flow or move by capillary action. **Ink affinity** as claimed in the instant application is defined as: to create a capillary head. Therefore, the ink affinity of the second member is greater than that of the first member in the instant application means the same as the second absorber has a higher capillary head than that of the first absorber in patent ('583). Under this condition, the fluid (or the ink) received by the first member (instant application)/first absorber (patent '583) is able to transfer to the second member (instant application)/second absorber (patent '583) by the difference of the ink affinity/capillary head, which is similar to a potential difference to cause an electrical current to flow in an electrical circuit. As to the fluidic transport coefficients recited in the instant application, since it is defined as: the material's ability to move a fluid, then the difference in ink affinity (instant application)/capillary head (patent '583) will create a motive force as a result of the difference of the in ink affinity (instant application)/capillary head (patent '583) to move the liquid (or the ink) from member to member or from absorber to absorber. Or, once the member/absorber possesses the ink affinity/capillary head, the

Art Unit: 2861

same will possess the ability to move the fluid. At any rate, the concept in both cases is: push or draw the fluid (or the ink) from the first member/first absorber to the next one. The difference is: the ink stored in the second member in the instant application, the third member functions only as a support, while in patent '583, the ink go to the third absorber.

Claims 2 and 3:

These two claims are the selection of materials for the first and second members and are similar to those in claim 30 of patent ('583), which is also a material selection for the first, second and the third absorbers.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to select known materials for the first and second members in the ink over-spray containment apparatus, since it has been held to be within the general skill of a worker in the art to perform such a selection on the basis of its suitability for the intended use, and in the instant application, such a selection of materials is to achieve the transport of fluid from the member that receives fluid in the first place to a member next to it through capillary action, therefore, any materials that can fulfill the transferring of liquid from one member to another member next to it can be used for this purpose, refer to MPEP 2144.07.

Claim 29:

This method claim corresponds to method claim 14 of patent ('583), and this method claim 14 of patent ('583) corresponds to its apparatus claim, claim 1 of the



patent ('583). Therefore, this claim is rejected on the basis as set forth for claim 1 of the instant application discussed above.

Claims 30 and 31:

The method of claim 29, further comprising containing said ink within said second member (claim 30); and

The method of claim 30, further comprising preventing said ink from migrating back to said first member (claim 31).

Rejection:

Since ink is transferred from the first member to the second member based on different ink affinities and fluidic transport coefficients, or based on different capillary heads as that were used in patent ('583), then it would have been an obvious matter that the ink after transferring to the second member will not be able to transfer back or migrating back to the first member due to the factors of different ink affinities and fluidic transport coefficients or different capillary heads of those two members, or it means the fluid is contained in the second member after transferring from the first member.

Claim 36:

Rejected on the basis as set forth for claim 29 discussed above.

Claim 41:

In this claim, the ink transport means and the ink containment means correspond to the first member and the second member of claim 1 of the instant application, and all of those correspond to the first and second absorbers in patent ('583), and this claim is rejected on the basis as set forth for claim 1 discussed above.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 29-31, 36, 41 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Lebold et al. (US Pat. No. 6,809,047).

In regard to:

Claim 1:

Lebold et al. teach:

An ink over-spray containment apparatus (20, figs. 1-4, Lebold et al. called it an ink jet absorber device), comprising:

a first member (22) having a first fluidic transport coefficient and a first ink affinity;

and

a second member (24) coupled to said first member, said second member having a second fluidic transport coefficient lesser than said first fluidic transport coefficient and a second ink affinity greater than said first ink affinity, refer to col. 4, lines 4-7; col. 5, lines 28-35; col. 5, line 64 to col. 6, line 26.

Please note: the dispersion of the waste ink droplets 34 from the top layer to the bottom layer is due to the difference of capillary forces/capillary gradient. Although parameters used to move fluid from one member to another member next to it have different names, such as fluidic transport coefficient, ink affinity used in the instant application, capillary head used in 6,860,583 reference, and capillary force/gradient (see col. 2, line 36 and col. 6, line 18 of reference 6,809,047) used in reference 6,809,047, however, all of those parameters are established to achieve a condition that is to move the fluid received in the first member to the second member next to it. Or, they are equivalent or compatible to each other.

Claims 2 and 3:

Lebold et al. further teach:

The apparatus of claim 1, wherein said first member comprises porous plastic (claim 2); and

The apparatus of claim 2, wherein said second member comprises needle felt (claim 3), refer to col. 5, lines 37-41.

Claim 29:

A method of containing fluid over-spray, comprising:

providing a first member having a first ink affinity, a first fluidic transport coefficient and a sprayed surface;

providing a second member having an ink affinity greater than said first ink affinity and a fluidic transport coefficient lesser than said first fluidic transport; and

transporting an ink from said sprayed surface to said second member.

Art Unit: 2861

Rejection:

This method claim corresponds to the apparatus claim, claim 1, and the method steps in this claim are deemed to be made inherent by the combination of the structure for claim 1 discussed above.

Claims 30 and 31:

The method of claim 29, further comprising containing said ink within said second member (claim 30); and

The method of claim 30, further comprising preventing said ink from migrating back to said first member (claim 31).

Rejection:

Please refer to Lebold et al.'s col. 2, lines 6-10; lines 36-44; and col. 5, line 64 to col. 6, line 26.

Claim 36:

A method of forming an ink over-spray containment apparatus, comprising:

providing a platen;

providing a first member having a first ink affinity and a first fluidic transport coefficient; and

providing a second member having a second ink affinity higher than said first ink affinity and a fluidic transport coefficient lower than said first fluidic transport coefficient.

Rejection:

This claim is rejected on the basis as set forth for claim 29 discussed above. As to the step of providing a platen, Examiner's answer to that is: a platen is inherent to an

Art Unit: 2861

ink jet printer. The platen is used in an ink jet printer as a support for the print medium.

Every ink jet printer has a platen.

Claim 41:

An ink over-spray containment system, comprising:

ink transport means for transporting ink away from a sprayed surface having an ink affinity and a fluidic transport coefficient; and

ink containment means for containing said ink, said ink containment means having greater ink affinity and lesser fluidic transport characteristics than said ink transport means.

Rejection:

This claim is rejected on the basis as set forth for claim 1 discussed above. In this claim, the ink transport means is the first absorber (22 of Lebold et al.'s invention). Ink containment means is Lebold et al.'s 24.

Claim 42:

Lebold et al. further teach:

means for increasing contact surface area between said ink transport means and said ink containment means, refer to col. 5, lines 53-63.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2861

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lebold et al.

The device of Lebold et al. DIFFERS from claim 43 in that it does not teach: means for sealingly supporting said ink transport means, said ink containment means, and said contact surface area increasing means.

From Lebold et al.'s figs. 4A and 4B, it would have been an obvious matter that absorbed ink (in black) is confined within the device (20), and it would have been an obvious matter that the device (20) is contained in a vessel or container, although not explicitly indicated in Lebold et al.'s figs. 4A and 4B. The device (20) with absorbed ink will stain the internal of the ink jet printer, if such a container or vessel is not provided, and the container or vessel is obviously sealingly support the device (20) so as not to

Art Unit: 2861

allow contained ink in the bottom absorber (24) leaking out of from, e.g., a crack or a hole in the container or vessel.

***Allowable Subject Matter***

8. Claims 11-28 are allowed.

9. Claims 4-10, 32-35 and 37-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

In regard to:

Claims 4-10:

The primary reason for the allowance of claims 4-10 is the inclusion of the limitation of a third member coupled to said second member, said third member having a third fluidic transport coefficient lesser than said second fluidic transport coefficient and a third ink affinity lesser than said second ink affinity. It is this limitation found in each of the claims as they are claimed in the combination, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.

Claims 11-28:

The primary reason for the allowance of claims 11-28 is the inclusion of the limitation of a third member compressibly coupled to said second member, said third member having a third fluidic transport coefficient lesser than said second fluidic transport coefficient and a third ink affinity lesser than said second ink affinity. It is this limitation found in each of the claims as they are claimed in the combination, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.

Claims 32-35 and 37-40:

The primary reason for the allowance of claims 32-35 and 37-40 is the inclusion of the limitation of a third member to said second member, said third member having a lower ink affinity and lower fluidic transport coefficient than said second member. It is this limitation found in each of the claims as they are claimed in the combination, which has not been found, taught or suggested by the prior art of record that makes these claims allowable over the prior art.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to shih-wen hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 9/5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SWH



Feb. 6, 2007

SHIH-WEN HSIEH  
PRIMARY EXAMINER

